FEDERAL ASSISTANCE PROGRAM- PROJECT STATUS REPORT
LAWRENCE LIVERMORE NATIONAL LABORATORY
Reporting Period - October 1, 2001 through December 31, 2001

PART I SITE 300

1. Project Management

Reporting Period Activities: The Department of Energy (DOE) Remedial Project Manager (RPM) discussed the DOE fiscal year 2002 budget during December 10 , 2001 telephone conference with the regulatory agencies. The following is the Department of Toxic Substances Control's (DTSC's) understanding regarding the fiscal year 2002 budget.

In early fiscal year 2001, the DOE Oakland Office (DOE/OAK) was informed via the fiscal year 2002 President's Budget Request that Site 300 would only receive $8.0 million approximately 26 percent below DOE/OAK's request of $10.8 million. The Main Site was to get only $3.3 million from President's Budget Request, approximately 70 percent below DOE/OAK request of $10.6 million.

Congressional action on the President's Budget Request resulted in an increase of $10.0 million to Lawrence Livermore National Laboratory (LLNL) cleanup accounts (Main Site/Site 300). This additional money has not been given to DOE/OAK as of yet, and it is still unknown when it will be received.

DTSC Activities: DTSC RPM tracked progress of cleanup at Site 300 by maintaining a project tracking schedule which identifies specific tasks required to reach FFA schedule milestones.

DTSC RPM continued to assist the DTSC Associate Governmental Program Analyst in preparing for the renewal of Cooperative Agreement, which begins on January 1, 2002.

Status Assessment, Changes and Forecast: In addition to cleanup funding impacts, funding for the Environmental Management (EM) activities at the Main Site was less than planned or requested. This shortfall has the likelihood of resulting in Resource Conservation and Recovery Act (RCRA) impacts and cleanup schedules. Due to the overall shortfall in EM funding, it is DOE/LLNL's management decision to continue fully fund the Main Site activities, including both cleanup and on-going waste management operations due to their vicinity to offsite receptors and potential

safety issues regarding hazardous waste management operations. This approach will most likely result in funds being removed from Site 300 cleanup. It is anticipated that , if transfer of funds to the Main Site occurs, the fiscal year 2002 funding profile for Site 300 will be $7.3 million.

At this level, DOE/LLNL think that they will be able to operate most of the existing treatment facilities, except maybe Building 834 Operable Unit (OU). However, further build-out of extraction and treatment facilities and investigation will have to be deferred. Consequently, renegotiation of milestones will be needed to be commensurate with the reduced allocated fund.

2. Operable Unit Activities and Federal Facility Agreement Documents

a. Site-Wide Documents

Reporting Period Activities: DOE submitted the Final Remedial Design Work Plan for Interim Remedies to the regulatory agencies on October 22, 2001.

At the October 5, 2001 RPM meeting, DOE/LLNL presented the results of the on-going Nitrate Study being conducted at Site 300.

DTSC Activities: The DTSC RPM reviewed the Draft Final Remedial Design Work Plan and determined that DTSC comments on the Draft Remedial Design Work Plan were adequately addressed in the draft final document. A letter of concurrence on the Draft Final Work Plan was sent to DOE on October 1, 2001.
Status Assessment, Changes and Forecast: The Nitrate Study was initially launched to try and determine natural background levels of nitrate at Site 300 for use in determining treatment system effluent limits and cleanup levels for nitrate in groundwater. The Nitrate Study team used an interdisciplinary approach including a soil leaching study, plant biomass modeling, and a stable isotope study to try and determine the relative contribution of nitrate to groundwater from natural sources vs. anthropogenic sources. Although the team was not able to determine one single background level for the site or ascertain specific mass contribution form natural versus anthropogenic sources, the data indicates that a fairly large portion of the nitrate in groundwater at Site 300 is derived from natural sources and that at the same time, a self-remediation due to denitrification seems to be occurring at the Site.

Draft Site-Wide Compliance Monitoring Plan/Contingency Plan for Interim Remedies will be submitted on March 29, 2002 and a public workshop will be held on April 16, 2002.

b. General Services Area Operable Unit (OU 1)

Reporting Period Activity: DOE/LLNL submitted the Third Quarter 2001 Compliance Report for the Eastern and Central General Services Area (GSA) Ground Water Treatment Systems on October 30, 2001. Also the Final Five Year Review Report was submitted on December 3, 2001.

The eastern and central GSA OU extraction and treatment systems operated and were in compliance with National Pollutant Discharge Elimination System (NPDES) permit requirements, Substantive Requirements for Wastewater Discharge, and air permits through the quarter.

On November 16, 2001, LLNL submitted a sampling plan and schedule in response to the California Regional Water Quality Control Board (RWQCB) requirements that LLNL collect and analyze additional samples associated with the eastern GSA treatment facility discharge. This sampling will be conducted in addition to the sample analysis already required by the NPDES permit.

DTSC Activities: The DTSC RPM reviewed on the Draft Final Five-Year Review and determined that DTSC comments on the Draft Five Year Review were adequately addressed in the draft final document. A letter of concurrence on the Draft Final Five Year Review was sent on November 15, 2001.

Status Assessment, Changes and Forecast: The Five-Year Review Report was finalized in November 2001. This five-year review determined that the remedy for the GSA OU was protective and effective and no deficiencies were identified.

c. Building 834 Operable Unit (OU 2)

Reporting Period Activity: DOE/LLNL submitted the Third Quarter 2001 Compliance Report for the Building 834 Ground Water Treatment System on December 28, 2001.

With the exception of a few brief shutdowns of the groundwater treatment system for repair and maintenance, the Building 834-Source ground water and soil vapor extraction and treatment systems operated in compliance with Substantive Requirements for Wastewater Discharge and air permits through the quarter.

DTSC Activities: The DTSC RPM reviewed and prepared comments on the Draft Interim Remedial Design (RD) and Draft Five-Year Review. Comment letters on both documents were sent to DOE on October 15 and 16, 2001, respectively.

Status Assessment, Changes and Forecast: DOE submitted the responses to DTSC comments on the Draft Interim RD on December 20, 2001. These comments will be addressed in the Draft Final document, which is due on January 11, 2002.

DOE/LLNL are performing a capture zone analysis for the existing and proposed extraction well field and the results will be presented in the Draft Final Interim RD.

As mentioned previous quarterly report, the well field configuration was evaluated and modified in May 2001 to only extract groundwater from those wells that are contributing significant volumes of water to the facility. These included extraction wells W-834-D3, -D4,-D5, -D6, -D13, -D14, -H2, -J1, and -J2. Should any appreciable water elevation rises occur, groundwater extraction from the remaining wells will be initiated where warranted. The system operated for 79 days during the third quarter. Facility performance will continue to be evaluated. In addition to these well field configuration studies, an ongoing evaluation of the use of aqueous-phase granular activated carbon (GAC) adsorption for groundwater treatment continued throughout the third quarter.

d. Pit 6 Landfill Operable Unit (OU 3)

Reporting Period Activities: DOE/LLNL submitted the Compliance Monitoring Program for the CERCLA-Closed Pit 6 Landfill, Third Quarter Report for 2001 to the regulatory agencies on November 30, 2001.

DTSC Activities: The DTSC RPM tracked progress at this OU through the RPM meeting Project Updates.

Status Assessment, Changes and Forecast: There are currently no FFA schedule or Remedial Design Work Plan milestones for this OU. The third quarter chemicals of concern (COCs) do not differ significantly from past quarters and do not indicate any new releases. Operation and maintenance activities at this OU continue to be conducted as specified by the Post-Closure Plan for the Pit 6 Landfill Operable Unit.

e. High Explosives Process Area Operable Unit (OU 4)

Reporting Period Activities: DOE/LLNL submitted the Third Quarter 2001 Compliance Monitoring Report for the Building 815 Source and Building 815 Distal Site Boundary Ground Water Treatment Systems on December 28, 2001.

The ground water extraction and treatment facilities at the Building 815 source area (B815-SRC) and at the Site boundary (B815-DSB) operated in compliance with Substantive Requirements for Wastewater Discharge during the quarter.

DTSC Activities: The DTSC RPM tracked progress at this OU through the RPM meeting Project Updates.

Status Assessment, Changes and Forecast: DOE/LLNL have begun preparing the High Explosive (HE) Process Area Remedial Design report. This report will present design details for DOE's selected remedy for groundwater cleanup in the HE Process Area. The main focus of the remedy is to remediate trichloroethylene (TCE), RDX and perchlorate in the Tnbs2 aquifer. The Draft Remedial Design is to be submitted by February 18, 2002.

f. Building 850/Pits 3 and 5 Operable Unit (OU 5)

Reporting Period Activities: DOE/LLNL submitted the Compliance Monitoring Program for RCRA-Closed Landfill Pits 1 and 7, Third Quarter 2001 Report to the regulatory agencies on November 29, 2001.

Four additional shallow holes were hand augered to depths of up to 12.9 ft in the vicinity of the piezometers recently installed upgradient of Pits 3 and 5. The piezometers will be outfitted with transducers to record water level information during the upcoming rainy seasons as part of a Water Balance Study of this area.

DTSC Activities: The DTSC RPM tracked progress at this OU through the RPM meeting Project Updates.

Status Assessment, Changes and Forecast: Milestones for Pits 3 and 5 Landfills were added by the revised FFA schedule which became effective September 12, 2001. The next FFA schedule milestone for this OU is the completion of the remedial investigation at the Pit 7 Complex, which is due to be completed by March 3, 2003.

The annual inspections of Pit 1 and Pit 7 by an independent Professional Engineer and LLNL surveys of the pit cap marker elevations were completed on July 26 and September 7, 2001, respectively. The results of the inspections reported that the existing conditions were satisfactory at both closed landfills.

g. Building 854 Operable Unit (OU 6)

Reporting Period Activity: The Building 854-Source ground water extraction and treatment system operated normally and in compliance with Substantive

Requirements for Wastewater Discharge throughout this quarter. DOE/LLNL submitted a combined Third Quarter 2001 Compliance Monitoring Report for the Building 832 Canyon and Building 854 OUs on December 28, 2001.

DTSC Activities: The DTSC RPM tracked progress at this OU through the RPM meeting Project Updates.

Status Assessment, Changes and Forecast: Analytical results for the groundwater sample collected from new well W-854-1731, located at the distal end of the plume originating at Building 854, indicated that no contaminants are present.

The FFA schedule milestones for characterization was extended in the revised FFA schedule to allow for completion of the additional required characterization work. The next FFA schedule milestone for this OU, the Characterization Summary Report, is now due to be submitted by May 3, 2002.

h. Building 832 Canyon Operable Unit (OU 7)

Reporting Period Activity: DOE/LLNL submitted a combined Third Quarter 2001 Compliance Monitoring Report for the Building 832 Canyon and Building 854 OUs on December 28, 2001. The Building 832 Source ground water treatment systems operated normally and in compliance with Substantive Requirements for Wastewater Discharge. The Building 830 Proximal and Building 832 Canyon TDI-Iron Filings/Geosiphon ground water treatment systems also operated normally and in compliance with Substantive Requirements for Wastewater Discharge.

DTSC Activities: The DTSC RPM tracked progress at this OU through the RPM meeting Project Updates.

Status Assessment, Changes and Forecast: A new well, W-830-1730, was drilled at the downgradient end of Building 832 Canyon to provide data to bound the TCE plume to the southeast. TCE and total petroleum hydrocarbons (TPH)-diesel were detected in groundwater sample from this well and the source of TPH-diesel is under investigation. The next deliverable for this OU is the Remedial Design Work Plan for the construction of a ground water and soil vapor extraction and treatment facility at the Building 830 source area. This deliverable is due on September 30, 2002.

i. Site 300 Operable Unit (OU 8)

Reporting Period Activity: DOE/LLNL submitted the Third Quarter 2001 Compliance Monitoring Report for Waste Discharge Requirements 96-248 on December 14, 2001.

DTSC Activities: The DTSC RPM tracked progress at this OU through the RPM meeting Project Updates

Status Assessment, Changes and Forecast: The revised FFA schedule that became effective on September 12, 2001 established new milestones for characterization of Building 865, Building 812, and the Sandia Test Site. The next milestones for these areas are due by September 30, 2002 and consist of the following activities: 1) the installation of monitor wells at the Building 865 area; 2) the installation of monitor wells and surface soil sampling at the Building 812 area; and 3) surface soil sampling at the Sandia Test Site.

3. Remedial Project Manager Meetings and Site Visits

a. RPM Meetings

Reporting Period Activity: RPM meetings were held on October 5 and November 30, 2001 at DTSC's Berkeley office. DOE/LLNL submitted the draft August 22 and October 5, 2001 RPM meeting summaries for review by the regulatory agency RPMs prior these meetings. The final August 22 and October 5, 2001 RPM meeting summaries were submitted to the regulatory agencies on October 18 and December 4, 2001, respectively.

DTSC Activities: The DTSC RPM attended the RPM meetings, reviewed the draft RPM meeting summaries, and conveyed comments on the RPM meeting summaries at the RPM meetings.

Status Assessment, Changes and Forecast: Along with the routine discussion of the status of work at the various OUs, DOE updates, and the presentation on Nitrate Study discussed in Sections 2.a., items discussed at the RPM meetings included: 1) Five-year review schedules; 2) Draft Remedial Design Documents for Site-wide and Building 834; and 3) GSA Draft Final Five-Year Review; and 4) Analytical data from the new well at Building 854 OU.

b. Site Visits

Reporting Period Activity: None

DTSC Activities: None

Status Assessment, Changes and Forecast: DOE/LLNL will schedule a site visit in the near future to orient Ted Park, the new DTSC RPM.

4. Public Participation

Reporting Period Activity: None

DTSC Activities: None

Status Assessment, Changes and Forecast: The next Technical Assistance Grant (TAG) meeting is scheduled on January 30, 2002.

PART II LIVERMORE SITE

1. Project Management

Reporting Period Activities: Please refer to Site 300 Project Management Section for the fiscal year 2002 budget. The Main Site was to get only $3.3 million from the President's Budget Request, which is 70 percent below DOE's request. Congressional action of the President's Budget Request resulted in an increase of $10.0 million to LLNL cleanup accounts. However, this money has not yet received by the DOE Oakland Office and the portion of this additional funding that would be directed to cleanup activities is not yet known.

DTSC Activities: The DTSC RPM continued to track the progress of cleanup at the Livermore Site by maintaining a project tracking schedule which identifies specific tasks required to meet Remedial Action Implementation Plan schedule milestones.

DTSC RPM continued to assist the DTSC Associate Governmental Program Analyst in preparing for the renewal of Cooperative Agreement with DOE, which begins on January 1, 2002.

Status Assessment, Changes and Forecast: Depending on the final budget allocation for the fiscal year 2002, the cleanup schedule and milestones may need to be revised.

2. Treatment Facility Operation and Reporting

Reporting Period Activity: DOE/LLNL submitted the Third Quarter 2001 Self-Monitoring Report on November 30, 2001. All treatment facility effluent discharge was within established compliance limits.

DTSC Activities: The DTSC RPM tracked treatment facility operation through the RPM meeting Project Updates.

Status Assessment, Changes and Forecast:. The next milestones are the beginning of operation of the Treatment Facility C-East miniature treatment unit and

the submittal of the Draft Five-Year Review that are due to be completed by January 31, 2002 and April 30, 2002, respectively. However, these schedules may be changed due to the budget problem.

3. Remedial Project Manager Meetings and Site Visits

a. RPM Meetings

Reporting Period Activity: RPM meetings were held on November 16, 2001 at DTSC's Berkeley office. DOE/LLNL submitted the draft September 21, 2001 RPM meeting summary for review by the regulatory agency RPMs prior to the RPM meetings. The final July 20, 2001 RPM meeting summary was submitted on October 23, 2001. The final September 21, 2001 meeting and draft November 16, 2001 meeting summaries were not submitted to the regulatory agencies during this quarter.

DTSC Activities: The DTSC RPM attended the RPM meeting and reviewed the Draft RPM meeting summary.

Status Assessment, Changes and Forecast: Along with the routine update on treatment facility operation and the DOE update, other topics of discussion at the RPM meeting included: 1) TFC east milestone delay due to budget ; 3) Recharge basin and drainage retention basin; 4) Technical Information Exchange (TIE) download; and 5) Milestone reprioritization.

LLNL reported that the western cell of the Recharge Basin was cleaned of vegetation and the floor ripped to aid in percolation. Discharge to the eastern cell has been shut off so it can dry out for similar maintenance. Even after clean out, the western cell still is not draining well, so extraction rates have been reduced about 100 gallons per minute to ensure enough freeboard remains in the western cell.

DOE/LLNL is investigating the feasibility of diverting the effluent from treatment Facility A into an existing ditch by Treatment Facility B that leads to Arroyo Las Positas. This is an alternative to discharging into Arroyo Seco, which usually doesn’t handle large quantities of water year around. The diversion will reduce the amount of water going into the Recharge Basin, which will help with the slow infiltration problem. Also, the groundwater mound produced by infiltration in the Recharge Basin is not as critical as it was in the earlier stages of the project.

DOE/LLNL decided to dispose of the soil from the National Ignition Facility that was originally proposed for use in the Drainage Retention Basin (DRB) retrofit project. The DRB retrofit is canceled for fiscal year 2001 because of funding.

The follow up sampling results for polychlorinated biphenyls (PCBs) in the siltation basin at shallower depths, located east of DRB, were all well below 1.0 part per million. LLNL recommends not to disturb the surface sediments and there is no plans for future work in the area.

Treatment Facility D effluent pipelines was connected to a recirculation line to send oxygenated water to the far west side of the DRB to help flush the basin. However, a test flushing indicated that the piping was plugged somewhere in the line. It was decided to finish the connection at this time while it was exposed, and re-test the line when the basin water level is lowered.

Ion-exchange operation for the modified system at Treatment Facility C (TFC) is expected to stop on December 1, 2001 due to the budget problem. Treatment Facility B operation has priority over TFC and TFC southwest operation for the limited ion-exchange treatment resources.

Technical Information Exchange (TIE) conference was held on November 13 through 16, 2001 at Albuquerque, New Mexico. The conference information can be accessed at <www.em.doe.gov/tie/tie2001agendaindex.html.

b. Site Visits

Reporting Period Activity: None

DTSC Activities: None

Status Assessment, Changes and Forecast: DOE/LLNL will schedule a site visit in the near future to orient Ted Park, the new DTSC RPM.

4. Public Participation

Reporting Period Activity: None

DTSC Activities: None

Status Assessment, Changes and Forecast: The next TAG meeting is scheduled on January 30, 2002.

ACRONYMS/ABBREVIATIONS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CVRWQCB	Regional Water Quality Control Board, Central Valley Region
DOE	U.S. Department of Energy
DTSC	Department of Toxic Substances Control
EM	Environmental Management
EPA	U.S. Environmental Protection Agency
FFA	Federal Facility Agreement
GSA	General Service Area
HSU	hydrostratigraphic unit
LLNL	Lawrence Livermore National Laboratory
MCL	Maximum Contaminant Level
OU	Operable Unit
mg/L	milligrams per liter
PCBs	polychlorinated biphenyls
ppb	part per billion
ppm	parts per million
ROD	Record of Decision
RPM	Remedial Project Manager
ROD	Record of Decision
SFRWQCB	Regional Water Quality Control Board, San Francisco Bay Region
STU	Solar-powered Treatment Unit
TIE	Technical Information Exchange
TAG	Technical Assistance Grant
TCE	trichloroethylene
VOC	volatile organic compoun d